



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
ENVIRONMENTAL SCIENCE CENTER
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FORT MEADE, MARYLAND 20755-5350

ORIGINAL



SDMS DocID

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DATE : September 21, 2004

SUBJECT: Region III Data QA Review

FROM : Khin-Cho Thaung *KCT*
Region III ESAT RPO (3EA21)

TO : Lorie Baker
Regional Project Manager (3HS34)

Attached is the inorganic data validation report for the New Jersey Fireworks Site (Case#:33178, SDG#:MC0004, MC0022, MC0029, MC0073) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III EAID.

If you have any questions regarding this review, please call me at (410) 305-2743.

Attachments

cc: Peggy Smith (MDE)

TO File #: 0015

TDF#: 0890

ANALYTICAL SERVICES AND QUALITY ASSURANCE BRANCH



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DATE: September 17, 2004

SUBJECT: Inorganic Data Validation (IM2 Level)
Case: 33178
SDGs: MC0004, MC0022, MC0029 and MC0073
Site: New Jersey Fireworks

FROM: [REDACTED] [REDACTED]
Inorganic Data Reviewer Senior Oversight Chemist

TO: [REDACTED]
ESAT Region 3 Project Officer

OVERVIEW

Case 33178, Sample Delivery Groups (SDGs) MC0004, MC0022, MC0029 and MC0073, consisted of twenty-six (26) soil and twenty (20) unfiltered aqueous samples analyzed for total metals and cyanide (CN⁻) and twenty (20) filtrate aqueous samples analyzed for dissolved metals. All samples were analyzed by Bonner Analytical Testing Company (BONNER). The sample set contained two (2) unfiltered and two (2) filtrate aqueous field blanks, three (3) soil field duplicate pairs and two (2) unfiltered and two (2) filtrate aqueous field duplicate pairs. Samples were analyzed in accordance with Contract Laboratory Program (CLP) Statement of Work (SOW) ILM05.3 through Routine Analytical Services (RAS) program.

SUMMARY

All samples were successfully analyzed for all Target Analyte List (TAL) parameters with the exception of antimony (Sb) in SDG MC0004. Areas of concern with respect to data usability are listed below.

Field blanks were utilized to assess field contamination based on corresponding sampling dates for this case.

Data in this case have been impacted by sample preservation as well as outliers present in the laboratory and field blanks, matrix spike, laboratory duplicate, laboratory control sample and serial dilution analyses. Details of these outliers are discussed under "Major and Minor Problems"; specific samples affected are outlined in "Table 1A" and qualified analytical results for all samples are summarized on the Data Summary Forms (DSFs).

MAJOR PROBLEM

The matrix spike recovery was extremely low (<30%) for Sb in SDG MC0004. Positive results reported for this analyte in affected samples in this SDG may be biased extremely low. The "L" qualifier has been superseded by "J" or "B" on the DSFs. The quantitation limit for this analyte in sample MC0002 in this SDG has been rejected and qualified "R" on the DSF.

MINOR PROBLEMS

Unfiltered aqueous samples MC0042 and MC0052 in SDG MC0073 had CN⁻ aliquots for which pH values were less than twelve (pH<12) prior to the digestion process. The positive result reported for CN⁻ in sample MC0042 in this SDG may be biased low. The "L" qualifier has been superseded by "B" on the DSF. The quantitation limit for CN⁻ in sample MC0052 in this SDG may be biased low and has been qualified "UL" on the DSF.

Continuing Calibration (CCB), Preparation (PB) and/or Field (FB) Blanks had reported results greater than the Method Detection Limits (MDLs) for the analytes listed below. Positive results reported in affected samples which are less than or equal to five times ($\leq 5X$) the blank concentrations may be biased high and have been qualified "B" on the DSFs.

<u>SDG</u>	<u>Blank</u>	<u>Affected Analytes</u>
MC0004	CCB	Sb, cadmium (Cd)
	PB	selenium (Se), sodium (Na), CN ⁻
	FB	Cd, mercury (Hg)
MC0022	CCB	Sb, Cd
	PB	calcium (Ca), Na, CN ⁻
MC0029	CCB	copper (Cu), aluminum (Al)
	PB	arsenic (As), Ca, zinc (Zn)
	FB	Zn
MC0073	CCB	Al, Cd
	PB	iron (Fe), Zn, CN ⁻
	FB	chromium (Cr), Hg, Zn

CCBs and/or PBs had negative values greater than the absolute value of the MDLs regarding the analytes listed below. Positive results in affected samples which are less than two times ($<2X$) the absolute value of the blank concentrations may be biased low. The "L" qualifier has been superseded by "J" or "B" on the DSFs. Quantitation limits in affected samples may be biased low and have been qualified "UL" on the DSFs.

<u>SDG</u>	<u>Affected Analytes</u>
MC0004	Cd
MC0022	lead (Pb)
MC0029	barium (Ba), beryllium (Be), Cd, manganese (Mn), Se
MC0073	Ba, cobalt (Co), magnesium (Mg), Mn, Hg, potassium (K)

Matrix spike recoveries were low ($<75\%$ but $>30\%$) for Sb, As and Se in SDG MC0022 and for silver (Ag) in SDG MC0029. Low recoveries may be attributed to matrix interferences or analyte lost during the digestion process. Positive results reported for these analytes in affected samples in these SDGs may be biased low. The "L" qualifier has been superseded by "J" or "B" on the DSFs. Quantitation limits for these analytes in affected samples in these SDGs may be biased low and have been qualified "UL" on the DSFs.

Relative Percent Differences (RPDs) for the laboratory duplicate analysis were outside control limits (35% RPD, $\pm 2XCRDL$) for Pb and Zn in SDG MC0004. Positive results reported for these analytes in this SDG are estimated and have been qualified "J" on the DSFs.

One of the aqueous laboratory control sample (LCS) result reported for Al in SDG MC0029 was outside the certified upper control limit ($>120\%$). Per SOW, if the LCS exceeded the certified control limits, the analysis should be terminated, problem corrected and associated samples redigested and analyzed. The laboratory did not redigest and reanalyze the associated aqueous sample in this SDG for Al. The reported result for this analyte in sample MC0029 the only sample affected in this SDG may be biased high and has been qualified "K" on DSF.

Percent Differences (%D) for ICP serial dilution analyses were outside control limits ($>10\%$) for the analytes listed below. Positive results reported in the affected samples are estimated due to possible matrix interferences and have been qualified "J" on the DSFs unless superseded by "B".

<u>SDG</u>	<u>Affected Analytes</u>
MC0004	Zn
MC0022	Ba
MC0029	Ba
MC0073	Mg, Mn, K

NOTES

Reported results between MDLs and Contract Required Quantitation Limits (CRQLs) were qualified "J" on the DSFs unless superseded by "B".

In SDGs MC0029 and MC0073 only one set of QC (matrix spike, laboratory duplicate and serial dilution analyses) was performed on the unfiltered samples. Therefore, the reviewer utilized the results for these analyses to qualify data for both the unfiltered and filtrate samples.

Some unfiltered samples in SDGs MC0029 and MC0073 had CN^- aliquots for which pH values were equal to twelve ($\text{pH}=12$) prior to the digestion process, which is outside the sample preservation criteria ($\text{pH}>12$) for CN^- analysis. No samples in these SDGs were qualified due to this slight discrepancy.

In SDG MC0073, one (1) of the CRQL check standard recoveries (CRI02) was high ($>130\%$) for Hg. Therefore, the laboratory reanalyzed the CRQL check standard as CRI03, which was well inside the control limits.

RPDs for the laboratory duplicate analyses were outside contractual control limits (20% RPD, $\pm\text{CRQL}$) for Ba, Cu and Mg in SDG MC0004 and for Pb in SDG MC0022. However, RPDs for these analytes in these SDGs were within Region 3 established control limits (35% RPD, $\pm 2\text{XCRQL}$) for soil analysis. No data were qualified for these analytes in these SDGs based on laboratory duplicate imprecision.

The Case Narrative for SDG MC0004 fails to mention that Ba, Cu, Pb, Mg and Zn were outside control limits for the laboratory duplicate analysis. However, Form Is were properly flagged with an "*" as required by the SOW.

Even though the matrix spike analysis was outside control limits for Sb in SDG MC0004 and the serial dilution analysis was outside the control limits for Zn in the same SDG, none of the Form Is were flagged with an "N" or "E", respectively, as required by the SOW. The reviewer added an "N" and an "E" next to the Sb and Zn, respectively, on each Form I in this SDG.

Even though the matrix spike analysis was outside control limits for Ag in SDG MC0029, only one (1) of the Form Is was flagged with an "N" as required by the SOW. The reviewer added an "N" next to the Ag on each Form I in this SDG.

Reported results for field duplicate pair MC0001/MC0005 in SDG MC0004 were within 35% RPD, $\pm 2\text{XCRQL}$ for all analytes except Cu.

Reported results for field duplicate pair MC0007/MC0011 in SDG MC0004 were within 35% RPD, $\pm 2\text{XCRQL}$ for all analytes except Al, Ba, Cd, Co and Fe.

Reported results for field duplicate pair MC0027/MC0028 in SDG MC0022 were within 35% RPD, $\pm 2 \times \text{CRQL}$ for all analytes except Al, Ba, Cr, Fe, Pb, Mn and Zn.

Reported results for field duplicate pair MC0035/MC0036 in SDG MC0029 were within 20% RPD, $\pm \text{CRQL}$ for all analytes except Al, Fe and Mn.

Reported results for field duplicate pairs MC0060/MC0061 in SDG MC0029 and MC0045/MC0052 and MC0068/MC0071 in SDG MC0073 were within 20% RPD, $\pm \text{CRQL}$ for all analytes.

Post-digestion spike recoveries were low for Sb, As, and Se in SDG MC0022; however, data are not qualified based on the post-digestion spike recovery.

The following samples were reanalyzed at dilutions for the analytes listed below in order to bring concentrations within the linear range of the instrument. Results for these analytes in these samples were reported from the diluted analyses, annotated with a "+" on the DSFs and noted below.

<u>SDG</u>	<u>Sample ID</u>	<u>Dilution Factor</u>	<u>Analyte</u>
MC0004	MC0007, MC0011	15.0	Ba
	MC0008, MC0016	3.0	Ba
	MC0007	2.0	Fe
	MC0011	3.0	Fe
MC0073	MC0051, MC0053	2.0	Ba

Data for Case 33178, SDGs MC0004, MC0022, MC0029 and MC0073, were reviewed in accordance with National Functional Guidelines for Evaluating Inorganic Analyses with Modification for use within Region III.

ATTACHMENTS**INFORMATION REGARDING REPORT CONTENT**

Table 1A is a summary of qualifiers applied to the laboratory-generated results during data validation.

TABLE 1A	SUMMARY OF QUALIFIERS ON DATA SUMMARY FORMS AFTER DATA VALIDATION
TABLE 1B	CODES USED IN COMMENTS COLUMN OF TABLE 1A
APPENDIX A	GLOSSARY OF DATA QUALIFIER CODES
APPENDIX B	DATA SUMMARY FORMS
APPENDIX C	CHAIN OF CUSTODY RECORDS
APPENDIX D	LABORATORY CASE NARRATIVE

DCN: 33178IM2.wpd

**TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION**

Case 33178, SDG MC0004

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Sb	MC0010, MC0012, MC0014, MC0015, MC0016, MC0017, MC0018, MC0019	B		High	CCB (10.001J µg/L) MSE (29%)
	MC0001, MC0003, MC0004, MC0005, MC0006, MC0008, MC0009	J			>MDL<CRQL MSE (29%)
	MC0002, MC0007, MC0011	L	R	Ext. Low	MSE (29%)
Cd	MC0006	B		High	FB (0.31J µg/L)
	MC0010, MC0014, MC0015, MC0017, MC0019	B		High	CCB (0.364J µg/L)
	MC0012	B		High	CCB (0.364J µg/L) PBN (-0.038J mg/Kg)
Pb	All Samples	J			DUP (108%)
Hg	All Samples Except MC0002, MC0007, MC0011, MC0015, MC0018	B		High	FB (0.12J µg/L)
Se	MC0001, MC0002, MC0004, MC0005, MC0006, MC0008, MC0009	B		High	PB (0.566J mg/Kg)

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION

Case 33178, SDG MC0004

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Na	All Samples Except MC0007, MC0011	B		High	PB (95.628J mg/Kg)
Zn	All Samples	J			DUP (60%) ISD (10.4%)
CN ⁻	All Samples Except MC0010, MC0014, MC0018, MC0019	B		High	PB (0.428J mg/Kg)

* See explanation of comments in Table 1B

**TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION**

Case 33178, SDG MC0022

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Sb	MC0022, MC0023	B		High	CCB (6.243J µg/L) MSL (57%)
	MC0026	J			>MDL<CRQL MSL (57%)
	MC0021, MC0024, MC0025, MC0027, MC0028	L	UL	Low	MSL (57%)
As	MC0021, MC0023	J			>MDL<CRQL MSL (72%)
	MC0022, MC0024, MC0025, MC0026, MC0027, MC0028	L	UL	Low	MSL (72%)
Ba	All Samples	J			ISD (22%)
Cd	MC0023, MC0027	B		High	CCB (0.318J µg/L)
Ca	MC0024	B		High	PB (9.426J mg/Kg)
Pb	MC0024	J			>MDL<CRQL PBN (-0.517J mg/Kg)
Se	All Samples		UL	Low	MSL (66%)
Na	All Samples	B		High	PB (57.292J mg/Kg)
CN ⁻	All Samples Except MC0023	B		High	PB (0.125J mg/Kg)

* See explanation of comments in Table 1B

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION

Case 33178, SDG MC0029

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON-DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Al	MC0033, MC0037, MC0054, MC0055, MC0056, MC0057, MC0059, MC0060, MC0061	B		High	CCB (26.973J µg/L)
	MC0029	K		High	LCH (121%)
As	MC0029, MC0036, MC0058	B		High	PB (3.032J µg/L)
Ba	All Samples Except MC0041, MC0064	J			ISD (39%)
	MC0041, MC0064		UL	Low	PBN (-2.117J µg/L)
Be	MC0029, MC0054, MC0055, MC0056, MC0057	J			>MDL<CRQL PBN (-0.045J µg/L)
	MC0033, MC0034, MC0035, MC0036, MC0037, MC0041, MC0058, MC0059, MC0060, MC0061, MC0062, MC0064		UL	Low	PBN (-0.045J µg/L)

**TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION**

Case 33178, SDG MC0029

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Cd	MC0029, MC0030, MC0031, MC0032, MC0033, MC0034, MC0035, MC0036, MC0037, MC0041		UL	Low	CBN (-0.408J µg/L)
	MC0054, MC0055, MC0056, MC0057, MC0058, MC0059, MC0060, MC0061, MC0062, MC0064		UL	Low	CBN (-0.345J µg/L)
Ca	MC0041, MC0064	B		High	PB (24.050J µg/L)
Cu	MC0030, MC0031, MC0032	B		High	CCB (0.808J µg/L)
Mn	MC0064	J			>MDL<CRQL PBN (-0.306J µg/L)
	MC0041		UL	Low	PBN (-0.306J µg/L)
Se	All Samples Except MC0029, MC0030, MC0031, MC0032		UL	Low	CBN (-4.850J µg/L)
Ag	MC0058	J			>MDL<CRQL MSL (69%)
	All Samples Except MC0058		UL	Low	MSL (69%)

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION

Case 33178, SDG MC0029

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Zn	MC0029, MC0030, MC0031, MC0032, MC0033, MC0034, MC0035, MC0037	B		High	FB (4.3J µg/L)
	MC0041, MC0062, MC0064	B		High	PB (2.122J µg/L)
	MC0054, MC0055, MC0056, MC0057, MC0059, MC0060, MC0061, MC0062	B		High	FB (3.7J µg/L)

* See explanation of comments in Table 1B

**TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION**

Case 33178, SDG MC0073

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Al	MC0065, MC0066, MC0067, MC0068, MC0073	B		High	CCB (8.476J µg/L)
Ba	MC0039, MC0063		UL	Low	PBN (-1.332J µg/L)
Cd	MC0039, MC0043, MC0044, MC0045, MC0046, MC0049, MC0051, MC0052, MC0053	B		High	CCB (0.312J µg/L)
Cr	MC0044, MC0049	B		High	FB (1.0J µg/L)
	MC0066, MC0067, MC0068, MC0069, MC0070, MC0071, MC0073	B		High	FB (0.44J µg/L)
Co	MC0063		UL	Low	CBN (-0.979J µg/L)
Fe	MC0049, MC0063, MC0068, MC0071, MC0073	B		High	PB (4.248J µg/L)
Mg	MC0039, MC0063		UL	Low	PBN (-8.377J µg/L)
	All Samples Except MC0039, MC0063	J			ISD (11%)

TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION

Case 33178, SDG MC0073

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON-DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
Mn	MC0039, MC0063		UL	Low	PBN (-0.710J µg/L)
	All Samples Except MC0039, MC0063	J			ISD (25%)
Hg	MC0042	B		High	FB (0.12J µg/L)
	MC0046, MC0047, MC0051	B		High	FB (0.12J µg/L) PBN (-0.101J µg/L)
	MC0039, MC0071	J			>MDL<CRQL PBN (-0.101J µg/L)
	All Samples Except MC0039, MC0042, MC0046, MC0047, MC0051, MC0071		UL	Low	PBN (-0.101J µg/L)
K	MC0039, MC0063		UL	Low	PBN (-76.993J µg/L)
	All Samples Except MC0039, MC0063	J			ISD (61%)
Zn	MC0047	B		High	FB (8.3J µg/L)
	All Samples Except MC0042, MC0046, MC0047, MC0051, MC0069	B		High	PB (7.457J µg/L)

**TABLE 1A
SUMMARY OF QUALIFIERS ON DATA SUMMARY
FORM AFTER DATA VALIDATION**

Case 33178, SDG MC0073

<u>ANALYTE</u>	<u>SAMPLES AFFECTED</u>	<u>POSITIVE VALUES</u>	<u>NON- DETECTED VALUES</u>	<u>BIAS</u>	<u>COMMENTS*</u>
CN ⁻	MC0042	B		High	PB (3.040J µg/L) pH (11)
	MC0045, MC0047, MC0051	B		High	PB (3.040J µg/L)
	MC0052		UL	Low	pH (11)

* See explanation of comments in Table 1B

Appendix A

Glossary of Data Qualifier Codes

GLOSSARY OF DATA QUALIFIER CODES (INORGANIC)**CODES RELATED TO IDENTIFICATION**

(confidence concerning presence or absence of analytes):

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unusable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = Analyte Present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low.
Actual value is expected to be higher.

[] = Analyte present. As values approach the IDL the quantitation may not be accurate.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

OTHER CODES

Q = No analytical result.

ORIGINAL

Appendix B

Data Summary Forms

DATA SUMMARY FORM: INORGANIC

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ORIGINAL

Case #: 33178

SDG : MC0004

Number of Soil Samples : 18

Site :

NEW JERSEY FIREWORKS

Number of Water Samples : 0

Lab. :

BONNER

Sample Number :		MC0001		MC0002		MC0003		MC0004		MC0005	
Sampling Location :		S11		S12		S13		S14		S15	
Field QC :		Dup of MC0005								Dup of MC0001	
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :		8/3/2004		8/3/2004		8/3/2004		8/3/2004		8/3/2004	
Time Sampled :		12:30		14:16		12:05		11:30		12:35	
%Solids :		81.9		77.7		88.3		80.2		86.2	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	20	4280		5620		7490		7570		4400	
ANTIMONY	6	1.5	J		R	1.7	J	1.5	J	1.1	J
ARSENIC	1	3.2		6.1		2.9		6.0		3.5	
BARIUM	20	57.1		23.0	J	599		102		29.2	
BERYLLIUM	0.5	0.30	J	0.23	J	0.33	J	0.51	J	0.44	J
CADMIUM	0.5	0.21	J	0.25	J	0.44	J	0.61	J	0.27	J
CALCIUM	500	199	J	46300		23700		1540		92.7	J
CHROMIUM	1	14.9		21.8		20.7		28.3		18.2	
COBALT	5	3.0	J	3.6	J	3.4	J	4.1	J	4.8	J
COPPER	2.5	22.0		13.0		20.0		18.8		13.9	
IRON	10	7810		7310		11700		13000		10200	
LEAD	1	26.7	J	2.1	J	1.12	J	1.30	J	12.1	J
MAGNESIUM	500	337	J	6990		2690		1870		306	J
MANGANESE	1.5	34.4		72.1		113		77.2		38.8	
MERCURY	0.1	0.086	B			0.068	B	0.11	B	0.064	B
NICKEL	4	6.2		62.0		11.7		23.6		7.4	
POTASSIUM	500	358	J	142	J	1160		613	J	375	J
SELENIUM	3.5	1.0	B	0.72	B			1.3	B	0.72	B
SILVER	1			0.43	J						
SODIUM	500	125	B	139	B	146	B	193	B	86.9	B
THALLIUM	2.5	0.66	J								
VANADIUM	5	20.5		9.8		23.5		31.7		24.7	
ZINC	6	20.8	J	12.4	J	40.0	J	91.7	J	24.3	J
CYANIDE	2.5	0.28	B	0.20	B	0.20	B	0.28	B	0.17	B

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (%Solids/ 100)

Revised 09/99

DATA SUMMARY FORM: INORGANIC

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Case #: 33178

SDG : MC0004

Site :

NEW JERSEY FIREWORKS

Lab. :

BONNER

ORIGINAL

Sample Number :		MC0006		MC0007		MC0008		MC0009		MC0010	
Sampling Location :		S16		S21		S22		S23		S24	
Field QC :				Dup of MC0011							
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :		8/3/2004		8/3/2004		8/3/2004		8/3/2004		8/3/2004	
Time Sampled :		14:06		09:55		10:20		11:05		10:45	
%Solids :		78.7		74.1		82.5		90.3		85.4	
Dilution Factor :		1.0		1.0 / 15.0 / 2.0		1.0 / 3.0		1.0		1.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	20	3300		40200		12300		9420		3980	
ANTIMONY	6	1.0	J	9.7	L	4.3	J	4.9	J	1.8	B
ARSENIC	1	2.1		14.2		5.3		4.0		2.6	
BARIUM	20	51.2		30500 +		5500 +		27.3		501	
BERYLLIUM	0.5	0.13	J	0.23	J	0.34	J	0.20	J	0.16	J
CADMIUM	0.5	0.15	B	2.8		0.68		0.40	J	0.11	B
CALCIUM	500	303	J	562	J	126	J	265	J	210	J
CHROMIUM	1	12.0		150		42.9		20.6		12.8	
COBALT	5	2.1	J	19.9		7.3		1.6	J	1.2	J
COPPER	2.5	6.2		162		31.3		7.0		5.5	
IRON	10	5060		49200 +		23200		14900		5980	
LEAD	1	16.6	J	40.3	J	20.8	J	7.6	J	13.1	J
MAGNESIUM	500	467	J	422	J	587	J	461	J	160	J
MANGANESE	1.5	63.6		693		455		47.0		8.7	
MERCURY	0.1	0.062	B	1.7		0.24	B	0.040	B	0.069	B
NICKEL	4	2.5	J	147		21.5		3.8	J	2.4	J
POTASSIUM	500	168	J	267	J	453	J	350	J	128	J
SELENIUM	3.5	0.59	B	6.7		2.3	B	1.2	B		
SILVER	1										
SODIUM	500	109	B			75.5	B	83.5	B	92.6	B
THALLIUM	2.5			1.3	J	0.57	J				
VANADIUM	5	12.0		28.4		24.8		27.5		14.5	
ZINC	6	11.5	J	81.4	J	28.6	J	10.8	J	8.8	J
CYANIDE	2.5	0.17	B	0.87	B	0.37	B	0.13	B	9.7	

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (%Solids/ 100)

Revised 09/99

+ = Result reported from diluted analysis.

DATA SUMMARY FORM: INORGANIC

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ORIGINAL

Case #: 33178

SDG : MC0004

Site :

NEW JERSEY FIREWORKS

Lab. :

BONNER

Sample Number :		MC0011		MC0012		MC0014		MC0015		MC0016	
Sampling Location :		S25		SS11		SS13		SS14		SS21	
Field QC :		Dup of MC0007									
Matrix :		Soil		Soil		Soil		Soil		Soil	
Units :		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :		8/3/2004		8/3/2004		8/3/2004		8/3/2004		8/3/2004	
Time Sampled :		10:00		12:40		12:10		11:35		10:05	
%Solids :		72.1		84.1		89.9		85.5		83.9	
Dilution Factor :		1.0 / 15.0 / 3.0		1.0		1.0		1.0		1.0 / 3.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	20	64000		6450		1350		8610		12400	
ANTIMONY	6	12.5	L	1.1	B	2.8	B	1.3	B	3.7	B
ARSENIC	1	18.9		1.8		6.4		3.9		6.2	
BARIUM	20	47600 +		47.0		37.5		33.8		5990 +	
BERYLLIUM	0.5	0.15	J	0.51	J	0.46	J	0.31	J	0.27	J
CADMIUM	0.5	1.8		0.071	B	0.17	B	0.15	B	0.26	J
CALCIUM	500	739		142	J	218	J	456	J	175	J
CHROMIUM	1	187		15.2		27.2		16.3		61.3	
COBALT	5	30.6		4.8	J	3.9	J	3.0	J	4.6	J
COPPER	2.5	200		5.9		8.4		6.2		31.4	
IRON	10	95500 +		8130		19300		11300		22600	
LEAD	1	42.0	J	6.3	J	4.2	J	13.7	J	12.4	J
MAGNESIUM	500	282	J	329	J	75.2	J	1080		421	J
MANGANESE	1.5	824		71.4		23.9		52.1		108	
MERCURY	0.1	1.4		0.057	B	0.047	B			0.20	B
NICKEL	4	147		6.8		4.3	J	7.2		27.0	
POTASSIUM	500	82.3	J	239	J	99.3	J	438	J	311	J
SELENIUM	3.5										
SILVER	1										
SODIUM	500			90.4	B	53.0	B	154	B	66.3	B
THALLIUM	2.5	0.66	J								
VANADIUM	5	27.3		19.7		37.4		23.1		35.2	
ZINC	6	94.7	J	21.5	J	23.7	J	22.1	J	23.7	J
CYANIDE	2.5	0.97	B	0.16	B			0.14	B	0.23	B

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (%Solids/ 100)

Revised 09/99

+ = Result reported from diluted analysis.

DATA SUMMARY FORM: INORGANIC

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Case #: 33178

SDG : MC0004

Site :

NEW JERSEY FIREWORKS

Lab. :

BONNER

ORIGINAL

Sample Number :		MC0017		MC0018		MC0019					
Sampling Location :		SS22		SS23		SS24					
Matrix :		Soil		Soil		Soil					
Units :		mg/Kg		mg/Kg		mg/Kg					
Date Sampled :		8/3/2004		8/3/2004		8/3/2004					
Time Sampled :		10:25		11:10		10:50					
%Solids :		81.4		86.4		85.8					
Dilution Factor :		1.0		1.0		1.0					
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	20	8620		4250		5630					
ANTIMONY	6	3.0	B	3.9	B	1.4	B				
ARSENIC	1	4.0		11.3		3.0					
BARIUM	20	866		10.1	J	85.4					
BERYLLIUM	0.5	0.49	J	0.38	J	0.23	J				
CADMIUM	0.5	0.18	B	0.27	J	0.11	B				
CALCIUM	500	130	J	50.1	J	1310					
CHROMIUM	1	28.0		77.6		25.9					
COBALT	5	2.1	J	3.0	J	1.5	J				
COPPER	2.5	5.8		13.6		6.9					
IRON	10	16400		27500		8940					
LEAD	1	5.6	J	7.3	J	5.7	J				
MAGNESIUM	500	433	J	195	J	871					
MANGANESE	1.5	92.6		32.4		19.2					
MERCURY	0.1	0.045	B			0.058	B				
NICKEL	4	4.6	J	2.3	J	3.1	J				
POTASSIUM	500	416	J	217	J	285	J				
SELENIUM	3.5										
SILVER	1										
SODIUM	500	72.4	B	41.9	B	76.2	B				
THALLIUM	2.5										
VANADIUM	5	34.2		64.9		19.5					
ZINC	6	15.0	J	9.6	J	9.6	J				
CYANIDE	2.5	0.17	B								

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (%Solids/ 100)

Revised 09/99

+ = Result reported from diluted analysis.

DATA SUMMARY FORM: INORGANIC

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Case #: 33178

SDG : MC0022

Number of Soil Samples : 8

Site :

NEW JERSEY FIREWORKS

Number of Water Samples : 0

Lab. :

BONNER

ORIGINAL

Sample Number :	MC0021			MC0022		MC0023		MC0024		MC0025	
Sampling Location :	SED1			SED2		SED3		SED4		SED5	
Matrix :	Soil			Soil		Soil		Soil		Soil	
Units :	mg/Kg			mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Date Sampled :	8/5/2004			8/5/2004		8/5/2004		8/5/2004		8/5/2004	
Time Sampled :	11:25			11:45		11:20		10:25		09:50	
%Solids :	75.3			80.4		69.2		83.7		59.4	
Dilution Factor :	1.0			1.0		1.0		1.0		1.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	20	730		697		2020		278		6420	
ANTIMONY	6		UL	0.47	B	1.1	B		UL	103	L
ARSENIC	1	0.67	J		UL	1.2	J		UL	6.3	L
BARIUM	20	4.6	J	15.1	J	27.8	J	2.2	J	213	J
BERYLLIUM	0.5	0.066	J	0.11	J	0.38	J	0.046	J	0.45	J
CADMIUM	0.5					0.12	B			1.0	
CALCIUM	500	95.4	J	136	J	337	J	38.9	B	1560	
CHROMIUM	1	7.8		5.3		9.4		3.2		17.7	
COBALT	5	0.50	J	0.74	J	4.2	J	0.73	J	17.0	
COPPER	2.5	1.8	J	3.0	J	6.5		1.2	J	32.3	
IRON	10	1510		2500		4120		713		21300	
LEAD	1	2.6		3.5		10.6		1.1	J	64.7	
MAGNESIUM	500	93.3	J	103	J	264	J	39.1	J	741	J
MANGANESE	1.5	7.7		5.6		31.3		10.1		2150	
MERCURY	0.1					0.084	J	0.079	J	0.22	
NICKEL	14	1.3	J	1.9	J	5.9		0.81	J	12.6	
POTASSIUM	500	47.2	J	50.2	J	113	J	19.0	J	290	J
SELENIUM	3.5		UL		UL		UL		UL		UL
SILVER	1									0.32	J
SODIUM	500	79.7	B	69.0	B	96.6	B	65.0	B	179	B
THALLIUM	2.5									4.2	
VANADIUM	5	5.0	J	5.3	J	9.9		2.3	J	21.1	
ZINC	6	4.9	J	5.5	J	23.7		4.5	J	153	
CYANIDE	2.5	0.17	B	0.14	B			0.15	B	0.55	B

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (%Solids/ 100)

Revised 09/99

DATA SUMMARY FORM: INORGANIC

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Case #: 33178

SDG : MC0022

Site :

NEW JERSEY FIREWORKS

Lab. :

BONNER

ORIGINAL

Sample Number :		MC0026		MC0027		MC0028					
Sampling Location :		SED6		SED7		SED8					
Field QC :				Dup of MC0028		Dup of MC0027					
Matrix :		Soil		Soil		Soil					
Units :		mg/Kg		mg/Kg		mg/Kg					
Date Sampled :		8/5/2004		8/5/2004		8/5/2004					
Time Sampled :		09:35		08:50		08:55					
%Solids :		82.9		69.4		58.9					
Dilution Factor :		1.0		1.0		1.0					
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	20	2990		3150		6060					
ANTIMONY	6	5.2	J	8.7	L	11.0	L				
ARSENIC	1	4.6	L	3.4	L	4.8	L				
BARIUM	20	562	J	925	J	1610	J				
BERYLLIUM	0.5	0.45	J	0.28	J	0.44	J				
CADMIUM	0.5	0.21	J	0.18	B	0.35	J				
CALCIUM	500	87.2	J	385	J	682	J				
CHROMIUM	1	17.7		15.0		25.5					
COBALT	5	3.5	J	2.9	J	7.8	J				
COPPER	2.5	4.3		13.5		19.2					
IRON	10	16600		11000		17400					
LEAD	1	7.0		23.3		41.0					
MAGNESIUM	500	171	J	224	J	446	J				
MANGANESE	1.5	315		213		850					
MERCURY	0.1					0.068	J				
NICKEL	4	2.1	J	3.6	J	7.9					
POTASSIUM	500	98.2	J	137	J	249	J				
SELENIUM	3.5		UL		UL		UL				
SILVER	1										
SODIUM	500	41.8	B	76.6	B	95.8	B				
THALLIUM	2.5	0.78	J			1.7	J				
VANADIUM	5	27.3		17.7		26.9					
ZINC	6	15.9		31.0		53.9					
CYANIDE	2.5	0.18	B	0.22	B	0.25	B				

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor) / (%Solids/ 100)

Revised 09/99

DATA SUMMARY FORM: INORGANIC

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Case #: 33178

SDG : MC0029

Number of Soil Samples : 0

Site :

NEW JERSEY FIREWORKS

Number of Water Samples : 20

Lab. :

BONNER

ALL TOTAL METALS

Sample Number :		MC0029		MC0030		MC0031		MC0032		MC0033	
Sampling Location :		SW1		SW2		SW3		SW4		SW5	
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		8/5/2004		8/5/2004		8/5/2004		8/5/2004		8/5/2004	
Time Sampled :		11:20		11:40		11:15		10:20		09:45	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200	372	K	558		359		359		79.5	B
ANTIMONY	60									8.1	J
*ARSENIC	10	4.9	B								
BARIUM	200	33.8	J	43.0	J	48.1	J	50.8	J	170	J
BERYLLIUM	5	0.087	J	0.18	J	0.13	J	0.11	J		UL
*CADMIUM	5		UL		UL		UL		UL		UL
CALCIUM	5000	7070		6780		6970		7220		23800	
*CHROMIUM	10	2.8	J	1.8	J	1.4	J	2.0	J	2.5	J
COBALT	50	2.3	J	3.6	J	3.6	J	3.3	J	22.5	J
COPPER	25	2.2	J	3.7	B	3.4	B	2.9	B	2.2	J
IRON	100	2600		1780		1480		2000		11100	
*LEAD	10										
MAGNESIUM	5000	2290	J	3280	J	3330	J	2870	J	6650	
MANGANESE	15	54.0		69.5		78.0		68.5		6150	
MERCURY	0.2										
*NICKEL	40	7.6	J	7.7	J	7.8	J	7.5	J	6.6	J
POTASSIUM	5000	1560	J	2370	J	2490	J	2120	J	5730	
SELENIUM	35										UL
SILVER	10		UL		UL		UL		UL		UL
SODIUM	5000	13000		17100		17500		16000		77900	
THALLIUM	25									8.5	J
VANADIUM	50	2.1	J	1.7	J	0.84	J	1.0	J		
ZINC	60	17.1	B	18.5	B	15.9	B	18.0	B	21.2	B
*CYANIDE	10			2.2	J					3.2	J

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor)

Revised 09/99

ORIGINAL

DATA SUMMARY FORM: INORGANIC

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ORIGINAL

Case #: 33178

SDG : MC0029

Site :

NEW JERSEY FIREWORKS

Lab. :

BONNER

ALL TOTAL METALS

Sample Number :		MC0034		MC0035		MC0036		MC0037		MC0041	
Sampling Location :		SW6		SW7		SW8		SW9		SW14	
Field QC :				Dup of MC0036		Dup of MC0035				Field Blank	
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		8/5/2004		8/5/2004		8/5/2004		8/5/2004		8/5/2004	
Time Sampled :		09:30		08:35		08:40		10:30		10:50	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200	351		150	J	893		39.3	B		
ANTIMONY	60										
*ARSENIC	10					3.1	B				
BARIUM	200	2590	J	2030	J	2270	J	1840	J		UL
BERYLLIUM	5		UL		UL		UL		UL		UL
*CADMIUM	5		UL		UL		UL		UL		UL
CALCIUM	5000	21300		18400		19000		35800		29.6	B
*CHROMIUM	10	2.1	J	1.1	J	3.5	J	0.61	J		
COBALT	50	5.7	J	2.2	J	4.2	J	1.2	J		
COPPER	25	4.5	J	4.7	J	6.1	J	0.98	J		
IRON	100	3200		2360		4410		5340			
*LEAD	10					6.3	J				
MAGNESIUM	5000	5640		4560	J	4770	J	3710	J		
MANGANESE	15	1540		697		1080		332			UL
MERCURY	0.2										
*NICKEL	40	5.6	J	4.6	J	5.8	J	2.0	J		
POTASSIUM	5000	14600		11800		12100		5690			
SELENIUM	35		UL		UL		UL		UL		UL
SILVER	10		UL		UL		UL		UL		UL
SODIUM	5000	34400		27700		28400		4110	J		
THALLIUM	25	4.1	J								
VANADIUM	50	1.9	J	0.90	J	3.6	J				
ZINC	60	20.0	B	19.0	B	25.5	J	10.9	B	4.3	B
*CYANIDE	10	2.8	J	2.3	J	3.6	J				

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor)

Revised 09/99

DATA SUMMARY FORM: INORGANIC

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ORIGINAL

Case #: 33178

SDG : MC0029

Site :

NEW JERSEY FIREWORKS

Lab. :

BONNER

ALL DISSOLVED METALS

Sample Number :		MC0054		MC0055		MC0056		MC0057		MC0058	
Sampling Location :		SW1DM		SW2DM		SW3DM		SW4DM		SW5DM	
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		8/5/2004		8/5/2004		8/5/2004		8/5/2004		8/5/2004	
Time Sampled :		11:20		11:40		11:15		10:20		09:45	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200	127	B	87.1	B	82.2	B	127	B		
ANTIMONY	60									8.5	J
*ARSENIC	10									3.2	B
BARIUM	200	28.9	J	39.0	J	45.7	J	51.4	J	161	J
BERYLLIUM	5	0.037	J	0.085	J	0.067	J	0.060	J		UL
*CADMIUM	5		UL		UL		UL		UL		UL
CALCIUM	5000	6770		6800		6980		7370		23300	
*CHROMIUM	10	1.5	J	0.68	J	0.53	J	1.5	J	2.5	J
COBALT	50	6.6	J	7.1	J	7.4	J	7.3	J	25.6	J
COPPER	25	2.0	J	2.4	J	3.4	J	2.5	J	1.5	J
IRON	100	1290		519		491		966		4720	
*LEAD	10										
MAGNESIUM	5000	2170	J	3210	J	3280	J	3010	J	6600	
MANGANESE	15	54.8		68.0		79.5		74.0		6020	
MERCURY	0.2										
*NICKEL	40	7.5	J	6.7	J	7.3	J	8.4	J	6.9	J
POTASSIUM	5000	1450	J	2350	J	2460	J	2190	J	5680	
SELENIUM	35		UL		UL		UL		UL		UL
SILVER	10		UL		UL		UL		UL	1.1	J
SODIUM	5000	12600		17000		17600		16500		77800	
THALLIUM	25									9.0	J
VANADIUM	50										
ZINC	60	12.9	B	14.0	B	15.1	B	15.7	B	18.6	J

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor)

Revised 09/99

DATA SUMMARY FORM: INORGANIC

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ORIGINAL

Case #: 33178

SDG : MC0029

Site :

NEW JERSEY FIREWORKS

Lab. :

BONNER

ALL DISSOLVED METALS

Sample Number :		MC0059		MC0060		MC0061		MC0062		MC0064	
Sampling Location :		SW6DM		SW7DM		SW8DM		SW9DM		SW14DM	
Field QC :				Dup of MC0061		Dup of MC0060				Field Blank	
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		8/5/2004		8/5/2004		8/5/2004		8/5/2004		8/5/2004	
Time Sampled :		09:30		08:35		08:40		10:30		10:50	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200	64.5	B	37.9	B	44.3	B				
ANTIMONY	60										
*ARSENIC	10										
BARIUM	200	2430	J	2030	J	2040	J	1830	J		UL
BERYLLIUM	5		UL		UL		UL		UL		UL
CADMIUM	5		UL		UL		UL		UL		UL
CALCIUM	5000	21200		18200		18500		36100		39.2	B
CHROMIUM	10	1.1	J	0.92	J	1.1	J	0.42	J		
COBALT	50	7.1	J	2.6	J	6.6	J	4.9	J		
COPPER	25	3.2	J	3.5	J	3.5	J				
IRON	100	1660		1350		1450		3380			
*LEAD	10										
MAGNESIUM	5000	5610		4590	J	4600	J	3760	J		
MANGANESE	15	802		661		769		309		0.45	J
MERCURY	0.2										
*NICKEL	40	5.9	J	4.3	J	4.7	J	2.3	J		
POTASSIUM	5000	14400		11600		11700		5680			
SELENIUM	35		UL		UL		UL		UL		UL
SILVER	10		UL		UL		UL		UL		UL
SODIUM	5000	34000		27400		27400		4160	J		
THALLIUM	25	3.1	J								
VANADIUM	50	0.68	J								
ZINC	60	11.1	B	13.7	B	15.5	B	5.9	B	3.7	B

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor)

Revised 09/99

DATA SUMMARY FORM: INORGANIC

Page 11 of 14

Case #: 33178

SDG : MC0073

Number of Soil Samples : 0

Site :

NEW JERSEY FIREWORKS

Number of Water Samples : 20

Lab. :

BONNER

ALL TOTAL METALS

Sample Number :		MC0039		MC0042		MC0043		MC0044		MC0045	
Sampling Location :		SW12		MW1		MW1A		MW2		MW3	
Field QC :		Field Blank								Dup of MC0052	
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		8/4/2004		8/4/2004		8/4/2004		8/4/2004		8/4/2004	
Time Sampled :		12:15		10:30		11:10		12:20		13:25	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200			88300		449		172	J	1030	
ANTIMONY	60										
*ARSENIC	10			77.5				3.3	J		
BARIUM	200		UL	31500		34.9	J	18.9	J	219	
BERYLLIUM	5			15.5		0.31	J	1.3	J	0.28	J
*CADMIUM	5	0.31	B	5.2		0.60	B	0.59	B	0.66	B
CALCIUM	5000			80700		2970	J	1510	J	15800	
*CHROMIUM	10	1.0	J	328		38.6		1.8	B	32.1	
COBALT	50			331		6.3	J	16.1	J	7.4	J
COPPER	25			322		6.4	J			10.7	J
IRON	100			392000		2030		4240		2620	
*LEAD	10			151							
MAGNESIUM	5000		UL	17100	J	1700	J	677	J	1090	J
MANGANESE	15		UL	1940	J	18.7	J	26.5	J	25.0	J
MERCURY	0.2	0.12	J	0.36	B		UL		UL		UL
*NICKEL	40			181		13.0	J	34.3	J	19.3	J
POTASSIUM	5000		UL	67500	J	1000	J	878	J	2950	J
SELENIUM	35			57.2							
SILVER	10										
SODIUM	5000			16700		14600		11700		11000	
THALLIUM	25			12.7	J						
VANADIUM	50			637		7.7	J	1.0	J	14.5	J
ZINC	60	8.3	B	620		17.9	B	12.7	B	15.6	B
*CYANIDE	10			3.0	B					2.0	B

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor)

Revised 09/99

ORIGINAL

DATA SUMMARY FORM: INORGANIC

Page 12 of 14

ORIGINAL

Case #: 33178

SDG : MC0073

Site :

NEW JERSEY FIREWORKS

Lab. :

BONNER

ALL TOTAL METALS

Sample Number :		MC0046		MC0047		MC0049		MC0051		MC0052	
Sampling Location :		MW3A		MW4		PW5		GW2		GW3	
Field QC :										Dup of MC0045	
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		8/4/2004		8/4/2004		8/3/2004		8/4/2004		8/4/2004	
Time Sampled :		14:00		10:45		11:40		09:00		13:25	
Dilution Factor :		1.0		1.0		1.0		1.0 / 2.0		1.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200	9200		11000		14.2	J	23200		1010	
ANTIMONY	60										
*ARSENIC	10			41.1				20.0			
BARIUM	200	337		99.6	J	12.5	J	43700 +		230	
BERYLLIUM	5	3.3	J	0.96	J	0.25	J	1.6	J	0.31	J
CADMIUM	5	0.94	B			0.52	B	1.4	B	0.47	B
CALCIUM	5000	5300		9060		1350	J	6580		16000	
CHROMIUM	10	124		335		1.6	B	230		35.6	
COBALT	50	85.0		9.8	J	16.6	J	28.9	J	7.5	J
COPPER	25	234		82.9		16.8	J	57.9		11.4	J
IRON	100	46100		132000		19.4	B	82600		2820	
*LEAD	10	16.7		19.4				25.6			
MAGNESIUM	5000	2090	J	8260	J	509	J	1670	J	1120	J
MANGANESE	15	59.1	J	1520	J	10.7	J	185	J	27.0	J
MERCURY	0.2	0.12	B	0.11	B		UL	0.20	B		UL
*NICKEL	40	187		13.4	J	28.7	J	18.0	J	21.4	J
POTASSIUM	5000	3440	J	5040	J	521	J	6560	J	3090	J
SELENIUM	35			30.2	J			17.0	J		
SILVER	10										
SODIUM	5000	11200		36800		4950	J	3560	J	11600	
THALLIUM	25			5.1	J						
VANADIUM	50	120		218				204		15.9	J
ZINC	60	123		40.6	B	27.2	B	61.7		17.9	B
*CYANIDE	10			2.8	B			2.6	B		UL

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor)

Revised 09/99

+ = Result reported from diluted analysis.

DATA SUMMARY FORM: INORGANIC

Page 13 of 14

ORIGINAL

Case #: 33178

SDG : MC0073

Site :

NEW JERSEY FIREWORKS

Lab. :

BONNER

ALL DISSOLVED METALS

Sample Number :		MC0053		MC0063		MC0065		MC0066		MC0067	
Sampling Location :		GW2DM		SW12DM		MW1DM		MW1A-DM		MW2DM	
Field QC :				Field Blank							
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		8/4/2004		8/4/2004		8/4/2004		8/4/2004		8/4/2004	
Time Sampled :		09:00		12:15		10:30		11:10		12:20	
Dilution Factor :		1.0 / 2.0		1.0		1.0		1.0		1.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200					15.6	B	17.6	B	30.2	B
ANTIMONY	60										
*ARSENIC	10					8.2	J				
BARIUM	200	37800 +			UL	26000		31.8	J	50.6	J
BERYLLIUM	5							0.22	J	1.3	J
*CADMIUM	5	0.33	B					0.40	J	0.38	J
CALCIUM	5000	6220				74800		3260	J	1660	J
CHROMIUM	10			0.44	J			0.61	B	0.91	B
COBALT	50	22.8	J		UL	17.2	J	9.2	J	18.3	J
COPPER	25							2.9	J		
IRON	100	510		5.4	B	50000		75.2	J	4100	
*LEAD	10										
MAGNESIUM	5000	660	J		UL	11100	J	1690	J	688	J
MANGANESE	15	100	J		UL	383	J	22.5	J	30.1	J
MERCURY	0.2		UL		UL		UL		UL		UL
*NICKEL	40	2.9	J			1.9	J	12.3	J	34.6	J
POTASSIUM	5000	5010	J		UL	57200		893	J	999	J
SELENIUM	35										
SILVER	10										
SODIUM	5000	3640	J			17200		15100		12200	
THALLIUM	25					4.6	J				
VANADIUM	50										
ZINC	60	6.7	B	6.5	B	10.6	B	18.7	B	14.4	B

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor)

Revised 09/99

+ = Result reported from diluted analysis.

DATA SUMMARY FORM: INORGANIC

Page 14 of 14

ORIGINAL

Case #: 33178

SDG : MC0073

Site :

NEW JERSEY FIREWORKS

Lab. :

BONNER

ALL DISSOLVED METALS

Sample Number :		MC0068		MC0069		MC0070		MC0071		MC0073	
Sampling Location :		MW3DM		MW3A-DM		MW4DM		GW3DM		PW5DM	
Field QC :		Dup of MC0071						Dup of MC0068			
Matrix :		Water		Water		Water		Water		Water	
Units :		ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :		8/4/2004		8/4/2004		8/4/2004		8/4/2004		8/3/2004	
Time Sampled :		13:25		14:00		10:45		13:25		11:40	
Dilution Factor :		1.0		1.0		1.0		1.0		1.0	
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ALUMINUM	200	7.8	B	190	J					9.2	B
ANTIMONY	60										
*ARSENIC	10										
BARIUM	200	206		130	J	70.2	J	196	J	12.2	J
BERYLLIUM	5	0.085	J	1.7	J			0.054	J	0.24	J
CADMIUM	5	0.56	J	0.88	J	0.64	J	0.56	J	2.2	J
CALCIUM	5000	14100		5000	J	9340		13900		1390	J
*CHROMIUM	10	1.9	B	1.1	B	0.73	B	2.2	B	1.7	B
COBALT	50	8.5	J	81.3		11.1	J	5.8	J	16.8	J
COPPER	25			173						17.0	J
IRON	100	8.7	B	576		15900		5.0	B	9.4	B
*LEAD	10										
MAGNESIUM	5000	872	J	1920	J	8270	J	809	J	505	J
MANGANESE	15	19.4	J	47.5	J	1540	J	14.2	J	11.0	J
MERCURY	0.2		UL		UL		UL	0.094	J		UL
*NICKEL	40	12.4	J	160		6.9	J	10.6	J	27.9	J
POTASSIUM	5000	2940	J	2660	J	4680	J	2880	J	527	J
*SELENIUM	35										
SILVER	10										
SODIUM	5000	11200		11300		38900		11100		5080	
THALLIUM	25					5.5	J			4.8	J
*VANADIUM	50	0.95	J								
ZINC	60	16.0	B	100		11.6	B	12.8	B	31.5	B

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL * Dilution Factor)

Revised 09/99

ORIGINAL

Appendix C

Chain-of-Custody Records



USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 33178
DAS No: R31935

R

Region: 3 Project Code: Account Code: T03W302DD2CE319LA00 CERCLIS ID: MDSFN0305563 Spill ID: E319 Site Name/State: Route 7 Dump/New Jersey Fireworks/MD Project Leader: Action: Expanded Site Investigation/RI Sampling Co: MDE-ERRP	Date Shipped: 8/3/2004 Carrier Name: FedEx Airbill: 843517786248 Shipped to: Bonner Analytical Testing Co. 2703 Oak Grove Road Hattiesburg MS 39402 (601) 264-2854	Chain of Custody Record <table border="1"><tr><td>Relinquished By</td><td>(Date / Time)</td><td>Received By</td><td>(Date / Time)</td></tr><tr><td>1</td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td></tr></table>	Relinquished By	(Date / Time)	Received By	(Date / Time)	1				2				3				4				Sampler Signature:
Relinquished By	(Date / Time)	Received By	(Date / Time)																				
1																							
2																							
3																							
4																							

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	QC Type
MC0001	Soil (0"-12")/ [REDACTED]	L/G	TM + CN + (21)	101 (Ice Only) (1)	S11	S: 8/3/2004	12:30	C0001	-
MC0003	Soil (0"-12")/ [REDACTED]	L/G	TM + CN + (21)	108 (Ice Only) (1)	S13	S: 8/3/2004	12:05	C0003	Solid Spike
MC0004	Soil (0"-12")/ [REDACTED]	L/G	TM + CN + (21)	121 (Ice Only) (1)	S14	S: 8/3/2004	11:30	C0004	-
MC0005	Soil (0"-12")/ [REDACTED]	L/G	TM + CN + (21)	125 (Ice Only) (1)	S15	S: 8/3/2004	12:35	C0005	Duplicate of S11
MC0006	Soil (0"-12")/ [REDACTED]	L/G	TM + CN + (21)	129 (Ice Only) (1)	S16	S: 8/3/2004	14:06	C0006	-
MC0008	Soil (0"-12")/ [REDACTED]	L/G	TM + CN + (21)	137 (Ice Only) (1)	S22	S: 8/3/2004	10:20	C0008	-
MC0009	Soil (0"-12")/ [REDACTED]	L/G	TM + CN + (21)	141 (Ice Only) (1)	S23	S: 8/3/2004	11:05	C0009	-
MC0010	Soil (0"-12")/ [REDACTED]	L/G	TM + CN + (21)	145 (Ice Only) (1)	S24	S: 8/3/2004	10:45	C0010	-
MC0012	Soil (>12")/ [REDACTED]	L/G	TM + CN + (21)	153 (Ice Only) (1)	SS11	S: 8/3/2004	12:40	C0012	-
MC0014	Soil (>12")/ [REDACTED]	L/G	TM + CN + (21)	161 (Ice Only) (1)	SS13	S: 8/3/2004	12:10	C0014	-
MC0015	Soil (>12")/ [REDACTED]	L/G	TM + CN + (21)	165 (Ice Only) (1)	SS14	S: 8/3/2004	11:35	C0015	-

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: MC0003, MC0049, MC0073	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: CN = Cyanide, DM+HG = CLP Diss Metals + Hg ICP-AES, TM + CN + = CLP ICP-AES TM + CN + HG, TM + HG = CLP TM + HG	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced?

TR Number: 3-592370820-080304-0014

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4

REGION COPY



USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 33178

DAS No: R31935

R

Region: 3	Date Shipped: 8/3/2004	Chain of Custody Record	Sampler Signature:
Project Code:	Carrier Name: FedEx		
Account Code: T03W302DD2CE319LA00	Airbill: 843517786248		
CERCLIS ID: MDSFN0305563	Shipped to: Bonner Analytical Testing Co.		
Spill ID: E319	2703 Oak Grove Road		
Site Name/State: Route 7 Dump/New Jersey Fireworks/MD	Hattiesburg MS 39402	Relinquished By (Date / Time)	Received By (Date / Time)
Project Leader:	(601) 264-2854	1	
Action: Expanded Site Investigation/RI		2	
Sampling Co: MDE-ERRP		3	
		4	

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	QC Type
MC0017	Soil (>12")/ [redacted]	L/G	TM + CN + (21)	174 (Ice Only) (1)	SS22	S: 8/3/2004	10:25	C0017	-
MC0019	Soil (>12")/ [redacted]	L/G	TM + CN + (21)	182 (Ice Only) (1)	SS24	S: 8/3/2004	10:50	C0019	-
MC0049	Ground Water/ [redacted]	L/G	CN (21), TM + HG (21)	309 (HNO3), 310 (HNO3), 311 (NaOH), 312 (NaOH) (4)	PW5	S: 8/3/2004	11:40	C0049	Spike
MC0073	Ground Water/ [redacted]	L/G	DM+HG (21)	345 (HNO3), 346 (HNO3) (2)	PW5DM	S: 8/3/2004	11:40		Spike
MC0002 ^{pus}	Soil (<12") ^{pus} [redacted]		TM+CN(21) ^{pus}	106 (ice only) ^{pus}	S12 ^{pus}	8/3/04 ^{pus}	1416 ^{pus}	C0002 ^{pus}	

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: MC0003, MC0049, MC0073	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____
CN = Cyanide, DM+HG = CLP Diss Metals + Hg ICP-AES, TM + CN + = CLP ICP-AES TM + CN + HG, TM + HG = CLP TM + HG			

TR Number: 3-592370820-080304-0014

REGION COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-41

F2V5.1.043 Page 2 of 2



**USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record**

Case No: 33178
DAS No: R31935

R

Region: 3 Project Code: Account Code: T03W302DD2CE319LA00 CERCLIS ID: MDSFN0305563 Spill ID: E319 Site Name/State: Route 7 Dump/New Jersey Fireworks/MD Project Leader: [REDACTED] Action: Expanded Site Investigation/RI Sampling Co: MDE-ERRP	Date Shipped: 8/3/2004 Carrier Name: FedEx Airbill: 843517786248 Shipped to: Bonner Analytical Testing Co. 2703 Oak Grove Road Hattiesburg MS 39402 (601) 264-2854	Chain of Custody Record <table border="1"><tr><th>Relinquished By</th><th>(Date / Time)</th><th>Received By</th><th>(Date / Time)</th></tr><tr><td>1</td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td></tr></table>	Relinquished By	(Date / Time)	Received By	(Date / Time)	1				2				3				4				Sampler Signature:
Relinquished By	(Date / Time)	Received By	(Date / Time)																				
1																							
2																							
3																							
4																							

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	QC Type
MC0007	Soil (0"-12")/ [REDACTED]	L/G	TM + CN + (21)	133 (Ice Only) (1)	S21	S: 8/3/2004	9:55	C0007	-
MC0011	Soil (0"-12")/ [REDACTED]	L/G	TM + CN + (21)	149 (Ice Only) (1)	S25	S: 8/3/2004	10:00	C0011	Duplicate of S21

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: TM + CN + = CLP ICP-AES TM + CN + HG	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 3-592370820-080304-0015

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Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-41

REGION COPY



USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 33178

DAS No: R31935

R

Region: 3 Project Code: Account Code: T03W302DD2CE319LA00 CERCLIS ID: MDSFN0305563 Spill ID: E319 Site Name/State: Route 7 Dump/New Jersey Fireworks/MD Project Leader: Action: Expanded Site Investigation/RI Sampling Co: MDE-ERRP	Date Shipped: 8/3/2004 Carrier Name: FedEx Airbill: 843517786248 Shipped to: Bonner Analytical Testing Co. 2703 Oak Grove Road Hattiesburg MS 39402 (601) 264-2854	Chain of Custody Record <table border="1"><thead><tr><th>Relinquished By</th><th>(Date / Time)</th><th>Received By</th><th>(Date / Time)</th></tr></thead><tbody><tr><td>1</td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td></tr></tbody></table>	Relinquished By	(Date / Time)	Received By	(Date / Time)	1				2				3				4				Sampler Signature:
Relinquished By	(Date / Time)	Received By	(Date / Time)																				
1																							
2																							
3																							
4																							

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type
MC0016	Soil (>12")/ [REDACTED]	L/G	TM + CN + (21)	169 (Ice Only) (1)	SS21	S: 8/3/2004 10:05	C0016	-
MC0018	Soil (>12")/ [REDACTED]	L/G	TM + CN + (21)	178 (Ice Only) (1)	SS23	S: 8/3/2004 11:10	C0018	-

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: TM + CN + = CLP ICP-AES TM + CN + HG	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 3-592370820-080304-0016

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-44

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USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 33178

DAS No: R31935

R

Region: 3	Date Shipped: 8/5/2004	Chain of Custody Record		Sampler Signature:
Project Code:	Carrier Name: FedEx			
Account Code: T03W302DD2CE319LA00	Airbill: 843517786204	Relinquished By	(Date / Time)	Received By (Date / Time)
CERCLIS ID: MDSFN0305563	Shipped to: Bonner Analytical Testing Co.	1		
Spill ID: E319	2703 Oak Grove Road	2		
Site Name/State: Route 7 Dump/New Jersey Fireworks/MD	Hattiesburg MS 39402	3		
Project Leader:	(601) 264-2854	4		
Action: Expanded Site Investigation/RI				
Sampling Co: MDE-ERRP				

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	QC Type
MC0021	Sediment/ [REDACTED]	L/G	TM + CN + (21)	190 (Ice Only) (1)	SED1	S: 8/5/2004	11:25	C0021	--
MC0022	Sediment/ [REDACTED]	L/G	TM + CN + (21)	194 (Ice Only) (1)	SED2	S: 8/5/2004	11:45	C0022	--
MC0023	Sediment/ [REDACTED]	L/G	TM + CN + (21)	198 (Ice Only) (1)	SED3	S: 8/5/2004	11:20	C0023	--
MC0029	Surface Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	225 (HNO3), 226 (NaOH) (2)	SW1	S: 8/5/2004	11:20	C0029	--
MC0030	Surface Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	229 (HNO3), 230 (NaOH) (2)	SW2	S: 8/5/2004	11:40	C0030	--
MC0031	Surface Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	234 (HNO3), 235 (NaOH) (2)	SW3	S: 8/5/2004	11:15	C0031	--
MC0054	Surface Water/ [REDACTED]	L/G	DM+HG (21)	326 (HNO3) (1)	SW1DM	S: 8/5/2004	11:20		--
MC0055	Surface Water/ [REDACTED]	L/G	DM+HG (21)	327 (HNO3) (1)	SW2DM	S: 8/5/2004	11:40		--
MC0056	Surface Water/ [REDACTED]	L/G	DM+HG (21)	328 (HNO3) (1)	SW3DM	S: 8/5/2004	11:15		--

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____
CN = Cyanide, DM+HG = CLP Diss Metals + Hg ICP-AES, TM + CN + = CLP ICP-AES TM + CN + HG, TM + HG = CLP TM + HG			

TR Number: 3-592370820-080504-0011

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USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 33178
DAS No: R31935

R

Region: 3 Project Code: Account Code: T03W302DD2CE319LA00 CERCLIS ID: MDSFN0305563 Spill ID: E319 Site Name/State: Route 7 Dump/New Jersey Fireworks/MD Project Leader: Action: Expanded Site Investigation/RI Sampling Co: MDE-ERRP	Date Shipped: 8/5/2004 Carrier Name: FedEx Airbill: 843517786204 Shipped to: Bonner Analytical Testing Co. 2703 Oak Grove Road Hattiesburg MS 39402 (601) 264-2854	Chain of Custody Record <table border="1"><tr><td colspan="2">Relinquished By</td><td>(Date / Time)</td><td colspan="2">Sampler Signature:</td></tr><tr><td colspan="2">1</td><td></td><td colspan="2"></td></tr><tr><td colspan="2">2</td><td></td><td colspan="2"></td></tr><tr><td colspan="2">3</td><td></td><td colspan="2"></td></tr><tr><td colspan="2">4</td><td></td><td colspan="2"></td></tr></table>	Relinquished By		(Date / Time)	Sampler Signature:		1					2					3					4					Received By (Date / Time)
Relinquished By		(Date / Time)	Sampler Signature:																									
1																												
2																												
3																												
4																												

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	QC Type
MC0024	Sediment/ [REDACTED]	L/G	TM + CN + (21)	202 (Ice Only) (1)	SED4	S: 8/5/2004	10:25	C0024	-
MC0025	Sediment/ [REDACTED]	L/G	TM + CN + (21)	206 (Ice Only) (1)	SED5	S: 8/5/2004	9:50	C0025	-
MC0026	Sediment/ [REDACTED]	L/G	TM + CN + (21)	210 (Ice Only) (1)	SED6	S: 8/5/2004	9:35	C0026	-
MC0032	Surface Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	238 (HNO3), 239 (NaOH) (2)	SW4	S: 8/5/2004	10:20	C0032	-
MC0033	Surface Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	242 (HNO3), 243 (NaOH) (2)	SW5	S: 8/5/2004	9:45	C0033	-
MC0034	Surface Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	246 (HNO3), 247 (NaOH) (2)	SW6	S: 8/5/2004	9:30	C0034	-
MC0057	Surface Water/ [REDACTED]	L/G	DM+HG (21)	329 (HNO3) (1)	SW4DM	S: 8/5/2004	10:20		-
MC0058	Surface Water/ [REDACTED]	L/G	DM+HG (21)	330 (HNO3) (1)	SW5DM	S: 8/5/2004	9:45		-
MC0059	Surface Water/ [REDACTED]	L/G	DM+HG (21)	331 (HNO3) (1)	SW6DM	S: 8/5/2004	9:30		-

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: CN = Cyanide, DM+HG = CLP Diss Metals + Hg ICP-AES, TM + CN + = CLP ICP-AES TM + CN + HG, TM + HG = CLP TM + HG	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 3-592370820-080504-0012

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F2V6.1.043 Page 1 of 1



USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 33178

DAS No: R31935

R

Region: 3	Date Shipped: 8/5/2004	Chain of Custody Record		Sampler Signature:
Project Code:	Carrier Name: FedEx	Relinquished By	(Date / Time)	Received By
Account Code: T03W302DD2CE319LA00	Airbill: 843517786204			
CERCLIS ID: MDSFN0305563	Shipped to: Bonner Analytical Testing Co.	1		
Spill ID: E319	2703 Oak Grove Road	2		
Site Name/State: Route 7 Dump/New Jersey Fireworks/MD	Hattiesburg MS 39402	3		
Project Leader:	(601) 264-2854	4		
Action: Expanded Site Investigation/RI				
Sampling Co: MDE-ERRP				

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	QC Type
MC0027	Sediment/ [REDACTED]	L/G	TM + CN + (21)	214 (Ice Only) (1)	SED7	S: 8/5/2004	8:50	C0027	-
MC0028	Sediment/ [REDACTED]	L/G	TM + CN + (21)	218 (Ice Only) (1)	SED8	S: 8/5/2004	8:55	C0028	Duplicate of SED7
MC0035	Surface Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	250 (HNO3), 251 (NaOH) (2)	SW7	S: 8/5/2004	8:35	C0035	-
MC0036	Surface Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	254 (HNO3), 255 (NaOH) (2)	SW8	S: 8/5/2004	8:40	C0036	Duplicate of SW7
MC0037	Surface Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	258 (HNO3), 259 (NaOH) (2)	SW9	S: 8/5/2004	10:30	C0037	-
MC0041	Surface Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	270 (NaOH), 271 (HNO3) (2)	SW14	S: 8/5/2004	10:50	C0041	Field Blank
MC0060	Surface Water/ [REDACTED]	L/G	DM+HG (21)	332 (HNO3) (1)	SW7DM	S: 8/5/2004	8:35		-
MC0061	Surface Water/ [REDACTED]	L/G	DM+HG (21)	333 (HNO3) (1)	SW8DM	S: 8/5/2004	8:40		Duplicate of SW7DM
MC0062	Surface Water/ [REDACTED]	L/G	DM+HG (21)	334 (HNO3) (1)	SW9DM	S: 8/5/2004	10:30		-
MC0064	Surface Water/ [REDACTED]	L/G	DM+HG (21)	336 (HNO3) (1)	SW14DM	S: 8/5/2004	10:50		- Field Blank

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____
CN = Cyanide, DM+HG = CLP Diss Metals + Hg ICP-AES, TM + CN + = CLP ICP-AES TM + CN + HG, TM + HG = CLP TM + HG			

TR Number: 3-592370820-080504-0013

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

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USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 33178

DAS No: R31935

R

Region: 3 Project Code: Account Code: T03W302DD2CE319LA00 CERCLIS ID: MDSFN0305563 Spill ID: E319 Site Name/State: Route 7 Dump/New Jersey Fireworks/MD Project Leader: Action: Expanded Site Investigation/RI Sampling Co: MDE-ERRP	Date Shipped: 8/4/2004 Carrier Name: FedEx Airbill: 843517786215 Shipped to: Bonner Analytical Testing Co. 2703 Oak Grove Road Hattiesburg MS 39402 (601) 264-2854	Chain of Custody Record <table border="1"><tr><td>Relinquished By</td><td>(Date / Time)</td><td>Sampler Signature:</td><td>Received By</td><td>(Date / Time)</td></tr><tr><td>1</td><td></td><td></td><td></td><td></td></tr><tr><td>2</td><td></td><td></td><td></td><td></td></tr><tr><td>3</td><td></td><td></td><td></td><td></td></tr><tr><td>4</td><td></td><td></td><td></td><td></td></tr></table>	Relinquished By	(Date / Time)	Sampler Signature:	Received By	(Date / Time)	1					2					3					4				
Relinquished By	(Date / Time)	Sampler Signature:	Received By	(Date / Time)																							
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INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	QC Type
MC0039	Surface Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	264 (HNO3), 265 (NaOH) (2)	SW12	S: 8/4/2004	12:15	C0039	Field Blank
MC0043	Ground Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	278 (HNO3), 279 (NaOH) (2)	MW1A	S: 8/4/2004	11:10	C0043	--
MC0044	Ground Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	282 (HNO3), 283 (NaOH) (2)	MW2	S: 8/4/2004	12:20	C0044	--
MC0047	Ground Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	294 (HNO3), 297 (NaOH) (2)	MW4	S: 8/4/2004	10:45	C0047	--
MC0053	Ground Water/ [REDACTED]	L/G	DM+HG (21)	348 (HNO3) (1)	GW2DM	S: 8/4/2004	9:00		--
MC0063	Surface Water/ [REDACTED]	L/G	DM+HG (21)	335 (HNO3) (1)	SW12DM	S: 8/4/2004	12:15		-- Field Blank
MC0067	Ground Water/ [REDACTED]	L/G	DM+HG (21)	339 (HNO3) (1)	MW2DM	S: 8/4/2004	12:20		--
MC0070	Ground Water/ [REDACTED]	L/G	DM+HG (21)	342 (HNO3) (1)	MW4DM	S: 8/4/2004	10:45		--

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: CN = Cyanide, DM+HG = CLP Diss Metals + Hg ICP-AES, TM + HG = CLP TM + HG		Concentration: L = Low, M = Low/Medium, H = High Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 3-592370820-080404-0007

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F2V5.1.043 Page 1 of 1

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USEPA Contract Laboratory Program
Inorganic Traffic Report & Chain of Custody Record

Case No: 33178

DAS No: R31935

R

Region: 3	Date Shipped: 8/4/2004	Chain of Custody Record	Sampler Signature:
Project Code:	Carrier Name: FedEx	Relinquished By (Date / Time)	Received By (Date / Time)
Account Code: T03W302DD2CE319LA00	Airbill: 843517786215	1	
CERCLIS ID: MDSFN0305563	Shipped to: Bonner Analytical Testing Co.	2	
Spill ID: E319	2703 Oak Grove Road	3	
Site Name/State: Route 7 Dump/New Jersey Fireworks/MD	Hattiesburg MS 39402	4	
Project Leader:	(601) 264-2854		
Action: Expanded Site Investigation/RI			
Sampling Co: MDE-ERRP			

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		ORGANIC SAMPLE No.	QC Type
MC0042	Ground Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	274 (HNO3), 275 (NaOH) (2)	MW1	S: 8/4/2004	10:30	C0042	-
MC0045	Ground Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	286 (HNO3), 287 (NaOH) (2)	MW3	S: 8/4/2004	13:25	C0045	-
MC0046	Ground Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	290 (HNO3), 291 (NaOH) (2)	MW3A	S: 8/4/2004	14:00	C0046	-
MC0051	Ground Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	319 (HNO3), 320 (NaOH) (2)	GW2	S: 8/4/2004	9:00	C0051	-
MC0052	Ground Water/ [REDACTED]	L/G	CN (21), TM + HG (21)	323 (HNO3), 324 (NaOH) (2)	GW3	S: 8/4/2004	13:25	C0052	Duplicate of MW3
MC0065	Ground Water/ [REDACTED]	L/G	DM+HG (21)	337 (HNO3) (1)	MW1DM	S: 8/4/2004	10:30		-
MC0066	Ground Water/ [REDACTED]	L/G	DM+HG (21)	338 (HNO3) (1)	MW1A-DM	S: 8/4/2004	11:10		-
MC0068	Ground Water/ [REDACTED]	L/G	DM+HG (21)	340 (HNO3) (1)	MW3DM	S: 8/4/2004	13:25		-
MC0069	Ground Water/ [REDACTED]	L/G	DM+HG (21)	341 (HNO3) (1)	MW3A-DM	S: 8/4/2004	14:00		-
MC0071	Ground Water/ [REDACTED]	L/G	DM+HG (21)	349 (HNO3) (1)	GW3DM	S: 8/4/2004	13:25		Duplicate of MW3DM

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____
CN = Cyanide, DM+HG = CLP Diss Metals + Hg ICP-AES, TM + HG = CLP TM + HG			

TR Number: 3-592370820-080404-0008

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MARYLAND DEPARTMENT OF THE ENVIRONMENT

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410-537-3000 • 1-800-633-6101

ORIGINAL

Robert L. Ehrlich, Jr.
Governor

VALIDATOR'S COPY

Kendl P. Philbrick
Secretary

Michael S. Steele
Lt. Governor

August 11, 2004

Jonas A. Jacobson
Deputy Secretary

Ms. Betty Jeffery
U.S. Environmental Protection Agency
Region III
Environmental Science Center
701 Mapes Road
Fort Meade, Maryland 20755

Dear Ms. Jeffery:

Enclosed are Traffic Reports (TRs) and Chain of Custody Records for the Route 7
Dump/New Jersey Fireworks Site, DAS Case Number R31935/RAS Case Number 33178.

- TR # 3-592370820-080304-0001
- TR # 3-592370820-080304-0002
- TR # 3-592370820-080304-0003
- TR # 3-592370820-080304-0004
- TR # 3-592370820-080304-0005
- TR # 3-592370820-080304-0006
- TR # 3-592370820-080304-0007
- TR # 3-592370820-080304-0008
- TR # 3-592370820-080304-0009
- TR # 3-592370820-080304-0010
- TR # 3-592370820-080304-0011
- TR # 3-592370820-080304-0012
- TR # 3-592370820-080304-0013
- TR # 3-592370820-080304-0014
- TR # 3-592370820-080304-0015
- TR # 3-592370820-080304-0016
- TR # 3-592370820-080304-0017**
- TR # 3-592370820-080404-0001
- TR # 3-592370820-080404-0002
- TR # 3-592370820-080404-0003
- TR # 3-592370820-080404-0004
- TR # 3-592370820-080404-0005

- TR # 3-592370820-080404-0006
- TR # 3-592370820-080404-0007
- TR # 3-592370820-080404-0008
- TR # 3-592370820-080504-0001
- TR # 3-592370820-080504-0002
- TR # 3-592370820-080504-0003
- TR # 3-592370820-080504-0004
- TR # 3-592370820-080504-0005
- TR # 3-592370820-080504-0006
- TR # 3-592370820-080504-0007
- TR # 3-592370820-080504-0008
- TR # 3-592370820-080504-0009
- TR # 3-592370820-080504-0010
- TR # 3-592370820-080504-0011
- TR # 3-592370820-080504-0012
- TR # 3-592370820-080504-0013

For DAS Case Number R31935, on TR # 3-592370820-080304-0013, the sample date and time were missing from the laboratory copy of the TR for sample R31935-PW5 (sample collected by Eugene Dejoise). The correct sample date and time, respectively, are 8/3/04 and 1140. This information has been added to the Region TR and initialed.

On the same TR as above, the sample date and time for sample R31935-S15 (sample collected by Dixon Wood) were handwritten onto the lab TR, but there were no initials indicating who added the handwritten information. The information was added to the lab TR by the CLP coordinator in the field (Peggy Smith, initials PWS) when the information was observed to be missing. This information has been added to the enclosed Region TR and initialed.

For RAS Case Number 33178 on TR # 3-592370820-080404-0007, sample MC0063 had a sample tag and TR collection time of 1215 and a bottle collection time of 1220. The correct collection time for this sample is 1215. The bottle was mislabeled in the field.

Also, sample number MC0002 was inadvertently omitted from TR # 3-592370820-080304-0014 and was later electronically inserted onto a new TR by itself, TR # 3-592370820-080304-0017. However, field personnel were unable to print out a copy of this TR and improvised by adding (in handwriting) this sample onto the end of TR # 3-592370820-080304-0014 and shipping it out with the samples included with that TR. This information is included here to document why the electronic version of this case will have a TR # 3-592370820-080304-0017, but the hard-copies do not.**

ORIGINAL

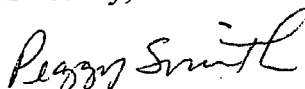
Ms. Betty Jeffery
Page 3

Additionally, TRs # 3-592370820-080504-0001 thru -0005 indicate that the shipment is not complete. Since this was the last day of sampling, the shipment was in fact complete and the Region TRs have been revised and initialed to reflect this.

Lastly, due to a Forms II Lite issue specifically pertaining to adding and editing analyses, corresponding inorganic sample numbers did not appear on some of the TRs. The corresponding sample numbers have been added on the enclosed Region TRs and initialed. According to the Forms II Lite Help Desk, the "Make Analysis Permanent" box must be checked to rectify this problem. We have since put a checkmark in the box to ensure this does not present a problem in the future.

If you have any questions, please contact me at (410) 537-3493.

Sincerely,



Peggy Smith, Project Manager
CHS Enforcement/Fund Lead Site
Assessment Division

PS

Enclosure

cc:



Ms. Lorie Baker



U.S EPA Region III Analytical Request Form

RAS CASE #: CT3062 33178		DAS #:		NSF #:	
Date: 6/16/04		QAPP/SAP: 06/04		Data Validation Level: IM2, M3	
Site: RT.7 OLD PHILADELPHIA RD New Jersey Fireworks					
Address: RT.7 OLD PHILADELPHIA RD		City: ELKTON		State: MD	
Latitude: 39 36 15		Longitude: 75 52 50			
Program: CERCLA		CERCLIS#: MDSFN0305563		Activity: ESI	
Account #: 2004T03 N302DD2CE319LA00		Operable Unit: 00		Spill ID: E319	
Preparer: PHILL ANDERSON		Phone: 410 537-3440		Fax: 410 537-3472	
OSC/RPM: LORIE BAKER		Phone: 215 814-3355		Fax:	
Site Leader: PHILL ANDERSON		Phone: 410 537-3440		Fax: 410 5337-3472	
EPA CO: LORIE BAKER		Contract Type:		Prime: MDE	
Analytical TAT: 21 days		Analytical + Validation TAT: 42 days			
Ship Date From: Aug 3, 2004		Ship Date To: Aug 5, 2004			

Samples	Method	Parameter	Matrix
27	OLM04.3	TCL VOCS <i>Ceimic</i>	SOIL/SEDIMENT <i>22392</i>
27	OLM04.3	TCL SVOCS & TCL PESTICIDES <i>Ceimic</i>	SOIL/SEDIMENT <i>22392</i>
27	ILM05.3 <i>ICP-AES</i>	TAL METALS & CYANIDE <i>BANNER</i>	SOIL/SEDIMENT <i>22396</i>
3	OLM04.3	TCL VOCS <i>Ceimic</i>	WATER <i>22392</i>
23	OLM04.3	TCL SVOCS & PESTICIDES <i>Ceimic</i>	WATER <i>22393, 2239</i>
47 <i>21</i>	ILM05.3 <i>ICP-AES</i>	TAL METALS <i>TAL Metals BANNER</i>	WATER <i>22397</i>
23	ILM05.3 <i>ICP-AES</i>	CYANIDE + Metals + <i>Hg BANNER</i>	WATER <i>22398</i>
		<i>Concentration 10 Analyzed Metals + Hg</i>	

Instruction: Please note; after final approval of the SAP, it was determined that an additional trip blank may be necessary. Therefore, this RAS request reflects (3) trips blanks compared to (2) that is outlined in the SAP.

Additional entered: 8/26/04 DH

ORIGINAL

Appendix D
Laboratory Case Narrative

USEPA - CLP

COVER PAGE

001 ORIGINAL

Lab Name: Bonner Analytical Testing Company Contract: 68W02067
Lab Code: BONNER Case No: 33178 NRAS No.: _____ SDG No: MC0004
SOW No.: ILM05.3

EPA Sample No.

Lab Sample ID

MC0001BT05527MC0002BT05528MC0003BT05529MC0003DBT05529DMC0003SBT05529SMC0004BT05530MC0005BT05531MC0006BT05532MC0007BT05533MC0008BT05534MC0009BT05535MC0010BT05536MC0011BT05537MC0012BT05538MC0014BT05539MC0015BT05540MC0016BT05541MC0017BT05542MC0018BT05543MC0019BT05544

ICP-AES

ICP-MS

Were ICP-AES and ICP-MS interelement corrections applied?

(Yes/No)

YESYES

Were ICP-AES and ICP-MS background corrections applied?

(Yes/No)

YESYES

If yes, were raw data generated before application of background corrections?

(Yes/No)

NONO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____

Name: _____

Date: 8/25/4

Title: Inorganic Laboratory Manager

Bonner Analytical Testing Company

002
ORIGINAL



2703 Oak Grove Road, Hattiesburg, MS 39402
Phone: (601) 264-2854 Fax: (601) 268-7084

SDG NARRATIVE:

SDG Number: MC0004

Case Number: 33178

Contract Number: 68W02067

Sample Receipt:

On 8/4/04 we received 18 soil samples under Fed Ex air bill number 8435 1778 6248. Custody seals were present and intact. Cooler temp was determined to be 2°C. Samples MC0003, MC0049, and MC0073 were listed for QC. Samples were in good condition with no discrepancies.

ICP-Metals

The analytical run for metals began on 8/19/04 @ 0901 hrs. During the run, the matrix spike, MC0003S, failed for Sb. A post spike was analyzed at two times the CRQL for Sb. Samples MC0007, MC0008, MC0011, and MC0016 were over the linear range for Ba and Fe. The samples were diluted and reanalyzed. ICSA04 did not sample, the samples associated with this failure were Z'd out. Samples MC0001 thru MC0009 were reran on 8/24/04.

*Dup out for Ba, Cu,
Pb, mg & Zn*

CV-AA Mercury

No Discrepancies

Cyanides

No Discrepancies

CSF:

No Discrepancies

Authorized by



Quality Assurance Officer

USEPA - CLP

COVER PAGE

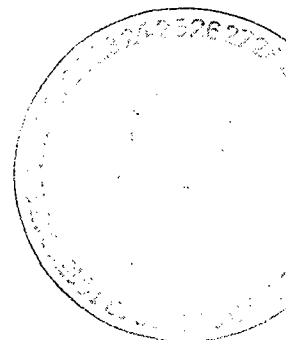
ORIGINAL
001

Lab Name: Bonner Analytical Testing Company Contract: 68W02067
Lab Code: BONNER Case No: 33178 NRAS No.: _____ SDG No: MC0022
SOW No.: ILM05.3

EPA Sample No.

MC0021MC0021DMC0021SMC0022MC0023MC0024MC0025MC0026MC0027MC0028

Lab Sample ID

BT05545BT05545DBT05545SBT05546BT05547BT05548BT05549BT05550BT05551BT05552

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	<u>YES</u>	<u>YES</u>
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	<u>YES</u>	<u>YES</u>
If yes, were raw data generated before application of background corrections?	(Yes/No)	<u>NO</u>	<u>NO</u>

Comments: Barium flagged as "E" estimated due to interferences occurring during the analysis of the Serial Dilution.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____

Name: _____

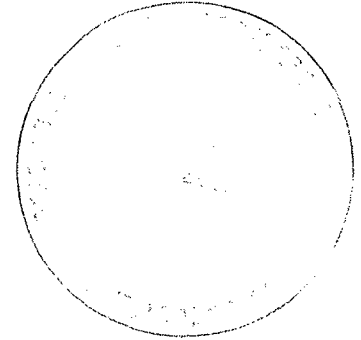
Date: 8/25/4Title: Inorganic Laboratory Manager

Bonner Analytical Testing Company

032
ORIGINAL



2703 Oak Grove Road, Hattiesburg, MS 39402
Phone: (601) 264-2854 Fax: (601) 268-7084



SDG NARRATIVE:

SDG Number: MC0022

Case Number: 33178

Contract Number: 68W02067

Sample Receipt:

On 8/6/04 we received 8 soil samples in three coolers under Fed Ex air bill number 8435 1778 6204. Custody seals were present and intact. Cooler temps were determined to be 2°C, 2.5°C, and 3°C. Samples were in good condition except for the following discrepancies:

1. Samples MC0022, 26, 27, and 28 all had about 20 mls of standing water. Please advise on whether to decant or homogenize.
Resolution 1: Per Region 3, "the lab must prepare the samples by mixing ~~ten~~ samples thoroughly, take a sub-sample for digestion and proceed with the analysis of the digests."
2. There was no QC listed. We would like to use sample MC0021 for QC.
Resolution 2) In accordance with previous direction from Region 3, the laboratory will select a sample for laboratory QC as long as the sample is not a PE, blank, or rinsate sample. The laboratory will note the issue in the Case/SDG Narrative, notify the SMO coordinator of the sample selected for laboratory QC (MC0021-soil and MC0029-water), and proceed with the analysis of the samples.

ICP-Metals

The analytical run for metals began 8/18/04 @ 1617 hrs. During the run, the matrix spike failed for As, Se, and Sb. Corrective action calls for a post spike to be performed at two times the CRQL.

Also, the duplicate sample failed for Pb and the serial dilution failed for Ba. No corrective action is required. Data will be reported as is and flagged in the CSF.

CV-AA Mercury

The analytical run for mercury was performed on 8/10/04. The initial instrument calibration failed due to one of the calibration standards was out of acceptable range. The instrument was recalibrated and the analytical run was initiated at 1354 hrs.

Cyanides

No Discrepancies

CSF:

No Discrepancies

Authorized by

Quality Assurance Officer

USEPA - CLP

COVER PAGE

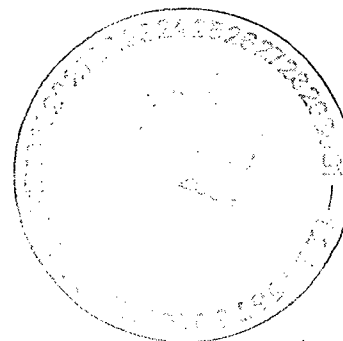
001 ORIGINAL

Lab Name: Bonner Analytical Testing Company Contract: 68W02067
Lab Code: BONNER Case No: 33178 NRAS No.: _____ SDG No: MC0029
SOW No.: ILM05.3

EPA Sample No.

Lab Sample ID

MC0029	BT05553
MC0029D	BT05553D
MC0029S	BT05553S
MC0030	BT05554
MC0031	BT05555
MC0032	BT05556
MC0033	BT05557
MC0034	BT05558
MC0035	BT05559
MC0036	BT05560
MC0037	BT05561
MC0041	BT05562
MC0054	BT05563
MC0055	BT05564
MC0056	BT05565
MC0057	BT05566
MC0058	BT05567
MC0059	BT05568
MC0060	BT05569
MC0061	BT05570



		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	<u>YES</u>	<u>YES</u>
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	<u>YES</u>	<u>YES</u>
If yes, were raw data generated before application of background corrections?	(Yes/No)	<u>NO</u>	<u>NO</u>

Comments: Barium flagged as "E" estimated due to interferences occurring during the analysis of the Serial Dilution.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____

Name: _____

Date: 08-25-2004Title: Inorganic Laboratory Manager

USEPA - CLP

COVER PAGE

002 ORIGINAL

Lab Name: Bonner Analytical Testing Company Contract: 68W02067
Lab Code: BONNER Case No: 33178 NRAS No.: _____ SDG No: MC0029
SOW No.: ILM05.3

EPA Sample No.

Lab Sample ID

MC0062BT05571MC0064BT05572

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	<u>YES</u>	<u>YES</u>
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	<u>YES</u>	<u>YES</u>
If yes, were raw data generated before application of background corrections?	(Yes/No)	<u>NO</u>	<u>NO</u>

Comments: Barium flagged as "E" estimated due to interferences occurring during the analysis of the Serial Dilution.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____

Name: _____

Date: 08/25-2004Title: Inorganic Laboratory Manager

Bonner Analytical Testing Company

ORIGINAL 03



2703 Oak Grove Road, Hattiesburg, MS 39402
Phone: (601) 264-2854 Fax: (601) 268-7084

SDG NARRATIVE:

SDG Number: MC0029

Case Number: 33178

Contract Number: 68W02067

Sample Receipt:

On 8/6/04 we received 20 water samples in three coolers under Fed Ex air bill number 8435 1778 6204. Custody seals were present and intact. Cooler temps were determined to be 2°C, 2.5°C, and 3°C. Samples were in good condition except for the following discrepancies:

1. There was no QC listed. We would like to use sample MC0021 for QC. Resolution 1) In accordance with previous direction from Region 3, the laboratory will select a sample for laboratory QC as long as the sample is not a PE, blank, or rinsate sample. The laboratory will note the issue in the Case/SDG Narrative, notify the SMO coordinator of the sample selected for laboratory QC (MC0021-soil and MC0029-water), and proceed with the analysis of the samples.

ICP-Metals

The analytical run was began 8/13/04 @ 1528 hrs. During the run, Al was two fold different in concentration between the parent and its duplicate. Corrective action calls for the samples to be redigested and reanalyzed. On 8/19/04 @ 0901 hrs, another run began for the aforementioned samples.

00 ORIGINAL

Also, the matrix spike was reanalyzed on the second run. The matrix spike failed for Ag. Corrective action calls for a post spike to be analyzed two times the CRQL.

Barium was out for the serial dilution. No corrective action is required. Data will be reported as is and flagged in the CSF.

CV-AA Mercury

No Discrepancies

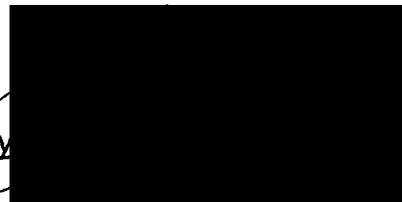
Cyanides

The analytical run for cyanide began 8/13/04 @ 1406 hrs. During the run, the FasPac software of the CN analyzer did not record the date and time of CCB01 on the raw data. Corrective action calls for the null time to be lined out, initialed and dated, and the correct date and time recorded on the raw data.

CSF:

No Discrepancies

Authorized by



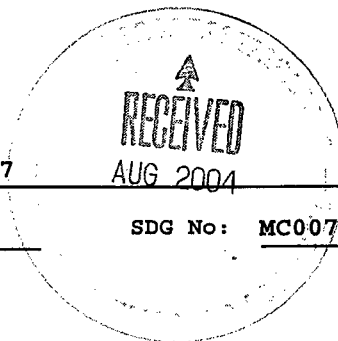
Quality Assurance Officer

USEPA - CLP

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001
ORIGINAL

Lab Name: Bonner Analytical Testing Company Contract: 68W02067
Lab Code: BONNER Case No: 33178 NRAS No.: _____ SDG No: MC0073
SOW No.: ILM05.3



EPA Sample No.	Lab Sample ID
MC0039	BT05502
MC0042	BT05503
MC0043	BT05504
MC0044	BT05505
MC0045	BT05506
MC0046	BT05507
MC0047	BT05508
MC0049	BT05509
MC0049D	BT05509D
MC0049S	BT05509S
MC0051	BT05510
MC0052	BT05511
MC0053	BT05512
MC0063	BT05513
MC0065	BT05514
MC0066	BT05515
MC0067	BT05516
MC0068	BT05517
MC0069	BT05518
MC0070	BT05519

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	<u>YES</u>	<u>YES</u>
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	<u>YES</u>	<u>YES</u>
If yes, were raw data generated before application of background corrections?	(Yes/No)	<u>NO</u>	<u>NO</u>

Comments: Magnesium, manganese and potassium flagged as "E" estimated due to interferences occurring during the analysis of the Serial Dilution.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____

Name: _____

Date: 8/18/04Title: Inorganic Laboratory Manager

USEPA - CLP

002 ORIGINAL

COVER PAGE

Lab Name: Bonner Analytical Testing Company Contract: 68W02067
Lab Code: BONNER Case No: 33178 NRAS No.: _____ SDG No: MC0073
SOW No.: ILM05.3

EPA Sample No.

Lab Sample ID

MC0071BT05520MC0073BT05521

		ICP-AES	ICP-MS
Were ICP-AES and ICP-MS interelement corrections applied?	(Yes/No)	<u>YES</u>	<u>YES</u>
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	<u>YES</u>	<u>YES</u>
If yes, were raw data generated before application of background corrections?	(Yes/No)	<u>NO</u>	<u>NO</u>

Comments: Magnesium, manganese and potassium flagged as "E" estimated due to interferences occurring during the analysis of the Serial Dilution.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: _____

Name: _____

Date: 8/18/4Title: Inorganic Laboratory Manager

Bonner Analytical Testing Company

003
ORIGINAL



2703 Oak Grove Road, Hattiesburg, MS 39402
Phone: (601) 264-2854 Fax: (601) 268-7084

SDG NARRATIVE:

SDG Number: MC0073

Case Number: 33178

Contract Number: 68W02067

Sample Receipt:

On 8/4/04 we received 2 water and 18 soil samples under Fed Ex air bill number 8435 1778 6248. Custody seals were present and intact. Cooler temp was determined to be 2°C. Samples MC0003, MC0049, and MC0073 were listed for QC. On 8/5/04 we received 18 water samples in two coolers under Fed Ex air bill number 8435 1778 6215. Custody seals were present and intact. Cooler temps were determined to be 3°C and 5.5°C. Samples were in good condition except for the following discrepancies:

1. Sample MC0063 had a sample tag and TR/COC collection time of 1215 and a bottle collection time of 1220. Please advise on the correct collection time.
2. Samples MC0042 and MC0052 (CN) had a pH of 11. Please advise on whether or not to adjust.

ICP-Metals

The analytical run for metals on 8/13/04 @ 1234 hrs. During the run, the serial dilution, MC0049L, failed for K, Mg, and Mn. The serial dilution results were flagged and reported as is. Samples MC0051 and MC0052 were over the linear range for Ba. A 1:2 dilution was prepared for MC0051 and MC0052 and analyzed.

CV-AA Mercury

The analytical run for mercury began on 8/13/04 @ 1652 hrs. During the run, CRI02, the second CRQL check standard was out. CRI02 was reanalyzed.

Cyanide

No Discrepancies

CSF

No Discrepancies

Authorized by

Quality Assurance Officer

17 ORIGINAL

[REDACTED]

From: [REDACTED]
Sent: Friday, August 06, 2004 9:54 AM
To: sample receipt; [REDACTED]
Cc: [REDACTED]
Subject: mail)
Region 03 | Case 33178 | Lab BONNER | Issue Insufficient/inappropriate designation of laboratory QC | FINAL

[REDACTED]

In accordance with previous direction from Region 3, the laboratory will select one of the designated samples per matrix for laboratory QC. The laboratory will note the issue in the Case/SDG Narrative, notify the SMO coordinator of the sample selected for laboratory QC, and proceed with the analysis of the samples.

SMO will record that the lab will use sample MC0049 for lab QC for this SDG.

Please let me know if you have any other questions or problems.

Thanks,
[REDACTED]

[REDACTED]
CSC
CLP Coordinator for Regions 3, 7, & 9
703-818-4214
[REDACTED]

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-----Original Message-----

From: [REDACTED]
Sent: Thursday, August 05, 2004 3:52 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Region 3 | Case 33178 | QC

[REDACTED]

I am closing out an SDG for case 33178. This SDG had two QC's listed, MC0049 and MC0073. We would like to use sample MC0049 for QC.

Thanks,
[REDACTED]

Bonner Analytical
68W02067

ORIGINAL

[REDACTED]

From: [REDACTED]
Sent: Thursday, August 12, 2004 10:34 AM
To: sample receipt; Chris Bonner (E-mail)
Cc: [REDACTED]
Subject: Region 03 | Case 33178 | Lab BONNER | Issue Multiple | FINAL

[REDACTED]

Issue 1: (Discrepancies with tags, jars, and/or TR/COC) Sample MC0063 had a sample tag and TR collection time of 1215 and a bottle collection time of 1220. The lab would like to know the correct collection time for this sample. Resolution 1: Per the Region, "the correct collection time for this sample is 1215. The bottle was mislabeled in the field." The lab will note the issue in the Case/SDG Narrative and proceed with the analysis of the samples.

Issue 2: (pH outside allowable limits) Samples MC0042 and MC0052 (CN) had a pH of 11. The lab would like to know if they should adjust the pH. Resolution 2: Per the Region, "the pH can be adjusted and the lab can analyze the samples." The lab will note the issue in the Case/SDG Narrative and proceed with the analysis of the samples.

Please let me know if you have any other questions or problems.

Thanks,
[REDACTED]

[REDACTED]
CSC
CLP Coordinator for Regions 3, 7, & 9
703-818-4214
[REDACTED]

This is a PRIVATE message. If you are not the intended recipient, please delete without copying and kindly advise us by e-mail of the mistake in delivery. NOTE: Regardless of content, this e-mail shall not operate to bind CSC to any order or other contract unless pursuant to explicit written agreement or government initiative expressly permitting the use of e-mail for such purpose.

-----Original Message-----

From: [REDACTED]
Sent: Thursday, August 12, 2004 10:23 AM
To: [REDACTED]
Subject: Re: NEW ISSUE | Region 03 | Case 33178 | Lab BONNER | Issue Multiple

FYI

----- Forwarded by [REDACTED] on 08/12/2004 10:25 AM-----
From: Peggy Smith <psmith@mde.state.md.us>

To: [REDACTED]
Phillip Anderson <panderson@mde.state.md.us>
cc: [REDACTED]
[REDACTED]

<mcox@mde.state.md.us>

Subject: Re: NEW ISSUE | Region 03 | Case 33178 | Lab BONNER | Issue Multiple
08/12/2004 10:18 AM

Sample MC0063 had a sample tag and TR collection time of 1215 and a bottle collection time

of 1220. The correct collection time for this sample is 1215. The bottle was mislabeled in the field.

>>> [REDACTED] 08/12/04 10:02AM >>>

ORIGINAL
175

We did not receive any response from the field.

Phill and Peggy,

The lab requested a time correction which was discrepant between the TR/COC and the container label. Please write memo to file as soon as possible.

From: [REDACTED]

To: [REDACTED]

CC:

Subject: NEW ISSUE | Region 03 | Case 33178 | Lab BONNER | Issue Multiple 08/12/2004 09:33 AM

Has the sampler provided a response to the issue below?

"Sample MC0063 had a sample tag and TR collection time of 1215 and a bottle collection time of 1220. The lab would like to know the correct collection time for this sample."

Please advise.

Thanks,
[REDACTED]

-----Original Message-----

From: [REDACTED]

Sent: Friday, August 06, 2004 1:07 PM

To: [REDACTED]

Cc: [REDACTED]

(E-mail)

Subject: Re: NEW ISSUE | Region 03 | Case 33178 | Lab BONNER | Issue Multiple

[REDACTED]
The pH can be adjusted and the lab can analyze the samples.

From: [REDACTED]

To: [REDACTED]

CC:

Subject: NEW ISSUE | Region 03 | Case 33178 | Lab BONNER | Issue Multiple 08/06/2004 11:50 AM

Betty Ann responded to the pH issue, however, per the ILM05.3 SOW, "Unless instructed by the USEPA Regional CLP Project Officer (CLP PO), the Contractor shall not perform any pH adjustment action if the sample has not been properly preserved."

Any direction regarding pH adjustments has to come from either the PO, or, in the PO's absence, the back-up PO.

[REDACTED] please advise regarding the pH.

Thanks,
[REDACTED]

-----Original Message-----

From: [REDACTED]

Sent: Friday, August 06, 2004 11:15 AM

To: [REDACTED]

Subject: Re: NEW ISSUE | Region 03 | Case 33178 | Lab BONNER | Issue Multiple

176

Issue 2 - Please have the lab document the issue in the case narrative, adjust the pH and continue with the analysis. Thanks. Issue 1 has been sent to the samplers to address.

From: [REDACTED]

To: [REDACTED]

CC:

Subject: NEW ISSUE | Region 03 | Case 33178 | Lab BONNER | Issue Multiple 08/06/2004 10:53 AM

Following is an email from BONNER regarding samples received for Case 33178. The lab has the following issues regarding these samples.

Issue 1: (Discrepancies with tags, jars, and/or TR/COC) Sample MC0063 had a sample tag and TR collection time of 1215 and a bottle collection time of 1220. The lab would like to know the correct collection time for this sample.

Issue 2: (pH outside allowable limits) Samples MC0042 and MC0052 (CN) had a pH of 11. The lab would like to know if they should adjust the pH. Please advise.

Thanks,

-----Original Message-----

From: [REDACTED]

Sent: Thursday, August 05, 2004 3:40 PM

To: [REDACTED]

Cc: [REDACTED]

Subject: Region 3 | Case 33178 | Sample Receipt

Today we received 18 water samples in two coolers under Fed Ex air bill number 8435 1778 6215. Custody seals were present and intact. Cooler temps were determined to be 3°C and 5.5°C. Samples were in good condition except for the following discrepancies:

Sample MC0063 had a sample tag and TR/COC collection time of 1215 and a bottle collection time of 1220. Please advise on the correct collection time.

Samples MC0042 and MC0052 (CN) had a pH of 11. Please advise on whether or not to adjust.

Thanks,

[REDACTED]
Bonner Analytical
68W02067